SEQUENCE LISTING

(1) GENERAL INFORMATION:

    (i) APPLICANT:
        (A) NAME: Gil Sharon and Gesher Israel Advance
             Biotecs (1996) Ltd.
        (B) STREET: POB 98

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        (E) COUNTRY: Israel

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        (G) TELEPHONE: +972 2 5700 381

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    (ii) TITLE OF INVENTION: Improved DNA Assembly Method

   (iii) NUMBER OF SEQUENCES: 50

    (iv) COMPUTER READABLE FORM:
        (A) MEDIUM TYPE: Floppy disk
        (B) COMPUTER: IBM PC compatible
        (C) OPERATING SYSTEM: PC-DOS/MS-DOS
        (D) SOFTWARE: PatentIn Release #1.0, Version #1.30 (EPO)

(2) INFORMATION FOR SEQ ID NO: 1:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 31 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: unknown

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

AGCTCCTGAT TCTCATGTTT GACAGCTTAT C   31

(2) INFORMATION FOR SEQ ID NO: 2:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 37 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: unknown

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

CUACUACUAC UAUGGCCAGG ACCCAACGCT GCCCGAG   37

(2) INFORMATION FOR SEQ ID NO: 3:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 40 base pairs

40

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        (B)  TYPE: nucleic acid
        (C)  STRANDEDNESS: single
        (D)  TOPOLOGY: unknown




     (xi)  SEQUENCE DESCRIPTION: SEQ ID NO: 3:

CUACUACUAC UACUAUGGCC AGGACCCAAC GCTGCCCGAG                              40

(2)  INFORMATION FOR SEQ ID NO: 4:

     (i)  SEQUENCE CHARACTERISTICS:
        (A)  LENGTH: 43 base pairs
        (B)  TYPE: nucleic acid
        (C)  STRANDEDNESS: single
        (D)  TOPOLOGY: unknown




     (xi)  SEQUENCE DESCRIPTION: SEQ ID NO: 4:

CUACUACUAC UACUACUATG GCCAGGACCC AACGCTGCCC GAG                          43

(2)  INFORMATION FOR SEQ ID NO: 5:

     (i)  SEQUENCE CHARACTERISTICS:
        (A)  LENGTH: 46 base pairs
        (B)  TYPE: nucleic acid
        (C)  STRANDEDNESS: single
        (D)  TOPOLOGY: unknown




     (xi)  SEQUENCE DESCRIPTION: SEQ ID NO: 5:

CUACUACUAC UACUACUACU ATGGCCAGGA CCCAACGCTG CCCGAG                       46

(2)  INFORMATION FOR SEQ ID NO: 6:

     (i)  SEQUENCE CHARACTERISTICS:
        (A)  LENGTH: 55 base pairs
        (B)  TYPE: nucleic acid
        (C)  STRANDEDNESS: single
        (D)  TOPOLOGY: unknown




     (xi)  SEQUENCE DESCRIPTION: SEQ ID NO: 6:

CUACUACUAC UACUACUACU ACUACUACUA TGGCCAGGAC CCAACGCTGC CCGAG            55

(2)  INFORMATION FOR SEQ ID NO: 7:

     (i)  SEQUENCE CHARACTERISTICS:
        (A)  LENGTH: 41 base pairs
        (B)  TYPE: nucleic acid
        (C)  STRANDEDNESS: single
```

(D) TOPOLOGY: unknown

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:

ATTGGTGCCC TTAAACGCCT GAACGCAGGA AAGAACATGT G   41

(2) INFORMATION FOR SEQ ID NO: 8:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 36 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: unknown

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:

UAGUAGUAGU AGAAGAGTAT GAGTATTCAA CATTTC   36

(2) INFORMATION FOR SEQ ID NO: 9:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 39 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: unknown

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:

UAGUAGUAGU AGUAGAAGAG TATGAGTATT CAACATTTC   39

(2) INFORMATION FOR SEQ ID NO: 10:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 42 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: unknown

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:

UAGUAGUAGU AGUAGUAGAA GAGTATGAGT ATTCAACATT TC   42

(2) INFORMATION FOR SEQ ID NO: 11:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 45 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: unknown

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:

UAGUAGUAGU AGUAGUAGUA GAAGAGTATG AGTATTCAAC ATTTC   45

(2) INFORMATION FOR SEQ ID NO: 12:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 54 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: unknown

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:

UAGUAGUAGU AGUAGUAGUA GUAGUAGUAG AAGAGTATGA GTATTCAACA TTTC   54

(2) INFORMATION FOR SEQ ID NO: 13:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 37 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: unknown

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:

AUCAUAUCAU AUTTCTCATG TTTGACAGCT TATCATC   37

(2) INFORMATION FOR SEQ ID NO: 14:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 38 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: unknown

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 14:

CAUCAUCAUC AUCAGGCGTT TAAGGGCACC AATAACTG   38

(2) INFORMATION FOR SEQ ID NO: 15:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 37 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: unknown

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 15:

UACUAUACUA UACATGCCGG CGATAATGGC CTGCTTC   37

(2) INFORMATION FOR SEQ ID NO: 16:

          (i) SEQUENCE CHARACTERISTICS:
               (A) LENGTH: 37 base pairs
               (B) TYPE: nucleic acid
               (C) STRANDEDNESS: single
               (D) TOPOLOGY: unknown

          (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 16:

UAUAGUAUAG UAGTAGATGA CGACCATCAG GGACAGC   37

(2) INFORMATION FOR SEQ ID NO: 17:

          (i) SEQUENCE CHARACTERISTICS:
               (A) LENGTH: 37 base pairs
               (B) TYPE: nucleic acid
               (C) STRANDEDNESS: single
               (D) TOPOLOGY: unknown

          (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 17:

AUCUAAUCUA AUTACGGTGA AAACCTGGCC TATTTCC   37

(2) INFORMATION FOR SEQ ID NO: 18:

          (i) SEQUENCE CHARACTERISTICS:
               (A) LENGTH: 36 base pairs
               (B) TYPE: nucleic acid
               (C) STRANDEDNESS: single
               (D) TOPOLOGY: unknown

          (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 18:

AUGAUGAUGA UGAACGCAGG AAAGAACATG TGAGCA   36

(2) INFORMATION FOR SEQ ID NO: 19:

          (i) SEQUENCE CHARACTERISTICS:
               (A) LENGTH: 45 base pairs
               (B) TYPE: nucleic acid
               (C) STRANDEDNESS: single
               (D) TOPOLOGY: unknown

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 19:

CAUAUCAUAU CAUAUCAUAU TTCTCATGTT TGACAGCTTA TCATC   45

(2) INFORMATION FOR SEQ ID NO: 20:

          (i) SEQUENCE CHARACTERISTICS:
               (A) LENGTH: 47 base pairs
               (B) TYPE: nucleic acid
               (C) STRANDEDNESS: single
               (D) TOPOLOGY: unknown

          (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 20:

CAUCAUCAUC AUCAUCAUCA UCAGGCGTTT AAGGGCACCA ATAACTG   47

(2) INFORMATION FOR SEQ ID NO: 21:

          (i) SEQUENCE CHARACTERISTICS:
               (A) LENGTH: 45 base pairs
               (B) TYPE: nucleic acid
               (C) STRANDEDNESS: single
               (D) TOPOLOGY: unknown

          (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 21:

CUAUACUAUA CUAUACUAUA CATGCCGGCG ATAATGGCCT GCTTC   45

(2) INFORMATION FOR SEQ ID NO: 22:

          (i) SEQUENCE CHARACTERISTICS:
               (A) LENGTH: 45 base pairs
               (B) TYPE: nucleic acid
               (C) STRANDEDNESS: single
               (D) TOPOLOGY: unknown

          (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 22:

UAUAGUAUAG UAUAGUAUAG GTAGATGACG ACCATCAGGG ACAGC   45

(2) INFORMATION FOR SEQ ID NO: 23:

          (i) SEQUENCE CHARACTERISTICS:
               (A) LENGTH: 45 base pairs
               (B) TYPE: nucleic acid
               (C) STRANDEDNESS: single
               (D) TOPOLOGY: unknown

          (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 23:

CUAAUCUAAU CUAAUCUAAU TACGGTGAAA ACCTGGCCTA TTTCC   45

(2) INFORMATION FOR SEQ ID NO: 24:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 45 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: single
          (D) TOPOLOGY: unknown

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 24:

AUGAUGAUGA UGAUGAUGAU GAACGCAGGA AAGAACATGT GAGCA   45

(2) INFORMATION FOR SEQ ID NO: 25:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 37 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: single
          (D) TOPOLOGY: unknown

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 25:

AUAUGAUAUG AUTCAGGAGC TAAGGAAGCT AAAATGG   37

(2) INFORMATION FOR SEQ ID NO: 26:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 37 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: single
          (D) TOPOLOGY: unknown

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 26:

AUUAGAUUAG AUCAGGCGGG CAAGAATGTG AATAAAG   37

(2) INFORMATION FOR SEQ ID NO: 27:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 45 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: single
          (D) TOPOLOGY: unknown

      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 27:

AUAUGAUAUG AUAUGAUAUG TCAGGAGCTA AGGAAGCTAA AATGG   45

(2) INFORMATION FOR SEQ ID NO: 28:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 45 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: unknown

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 28:

AUUAGAUUAG AUUAGAUUAG CAGGCGGGCA AGAATGTGAA TAAAG   45

(2) INFORMATION FOR SEQ ID NO: 29:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 41 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: unknown

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 29:

ATTGGTGCCC TTAAACGCCT GAACGCAGGA AAGAACATGT G   41

(2) INFORMATION FOR SEQ ID NO: 30:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 38 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: unknown

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 30:

AGCGTTGGGT CCTGGCCAAA GAGTATGAGT ATTCAACA   38

(2) INFORMATION FOR SEQ ID NO: 31:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 31 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: unknown

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 31:

AGCTCCTGAT TCTCATGTTT GACAGCTTAT C   31

(2) INFORMATION FOR SEQ ID NO: 32:

47

(i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 30 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: single
            (D) TOPOLOGY: unknown

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 32:

ATACTCTTTG GCCAGGACCC AACGCTGCCC   30

(2) INFORMATION FOR SEQ ID NO: 33:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 35 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: single
            (D) TOPOLOGY: unknown

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 33:

AAACATGAGA ATCAGGAGCT AAGGAAGCTA AAATG   35

(2) INFORMATION FOR SEQ ID NO: 34:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 41 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: single
            (D) TOPOLOGY: unknown

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 34:

ATGTTCTTTC CTGCGTTCAG GCGTTTAAGG GCACCAATAA C   41

(2) INFORMATION FOR SEQ ID NO: 35:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 24 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: single
            (D) TOPOLOGY: unknown

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 35:

ATTGCTGCAG GCATCGTGGT GUCA   24

(2) INFORMATION FOR SEQ ID NO: 36:

(i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 36 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: single
            (D) TOPOLOGY: unknown

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 36:

AGCGTTGGGT CCTGGCCAAA GAGTAUGAGT ATTCAA   36

(2) INFORMATION FOR SEQ ID NO: 37:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 27 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: single
            (D) TOPOLOGY: unknown

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 37:

ACGCCTGAAC GCAGGAAAGA ACAUGTG   27

(2) INFORMATION FOR SEQ ID NO: 38:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 24 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: single
            (D) TOPOLOGY: unknown

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 38:

ACACCACGAT GCCTGCAGCA AUGG   24

(2) INFORMATION FOR SEQ ID NO: 39:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 40 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: single
            (D) TOPOLOGY: unknown

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 39:

AGGCCTGGTA TGAGTCTCAG GAGCUAAGGA AGCTAAAATG

(2) INFORMATION FOR SEQ ID NO: 40:

        (i) SEQUENCE CHARACTERISTICS:

49

(A) LENGTH: 27 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: unknown

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 40:

ATTGGCTGAG ACGAAAAACA TAUTCTC   27

(2) INFORMATION FOR SEQ ID NO: 41:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 25 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: single
            (D) TOPOLOGY: unknown

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 41:

ATATGTTTTT CGTCTCAGCC AAUCC   25

(2) INFORMATION FOR SEQ ID NO: 42:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 41 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: single
            (D) TOPOLOGY: unknown

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 42

ATGTTCTTTC CTGCGTTCAG GCGUTTAAGG GCACCAATAA C   41

(2) INFORMATION FOR SEQ ID NO: 43:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 27 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: single
            (D) TOPOLOGY: unknown

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 43:

ATACCGCAAG CGACAGGCCG AUCATCG   27

(2) INFORMATION FOR SEQ ID NO: 44:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 36 base pairs

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          (B)  TYPE: nucleic acid
          (C)  STRANDEDNESS: single
          (D)  TOPOLOGY: unknown




          (xi)  SEQUENCE DESCRIPTION: SEQ ID NO: 44:


ACGTGGCTTT GTTGTTCTCA TGUTTGACAG CTTATC                                    36

(2)  INFORMATION FOR SEQ ID NO: 45:

          (i)  SEQUENCE CHARACTERISTICS:
               (A)  LENGTH: 30 base pairs
               (B)  TYPE: nucleic acid
               (C)  STRANDEDNESS: single
               (D)  TOPOLOGY: unknown




          (xi)  SEQUENCE DESCRIPTION: SEQ ID NO: 45:

ATACTCTTTG GCCAGGACCC AACGCUGCCC                                           30

(2)  INFORMATION FOR SEQ ID NO: 46:

          (i)  SEQUENCE CHARACTERISTICS:
               (A)  LENGTH: 25 base pairs
               (B)  TYPE: nucleic acid
               (C)  STRANDEDNESS: single
               (D)  TOPOLOGY: unknown




          (xi)  SEQUENCE DESCRIPTION: SEQ ID NO: 46:

ATCGGCCTGT CGCTTGCGGT AUTCG                                                25

(2)  INFORMATION FOR SEQ ID NO: 47:

          (i)  SEQUENCE CHARACTERISTICS:
               (A)  LENGTH: 31 base pairs
               (B)  TYPE: nucleic acid
               (C)  STRANDEDNESS: single
               (D)  TOPOLOGY: unknown




          (xi)  SEQUENCE DESCRIPTION: SEQ ID NO: 47:

ACATGAGAAC AACAAAGCCA CGUTGTGTCT C                                         31

(2)  INFORMATION FOR SEQ ID NO: 48:
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51

(i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 25 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: single
            (D) TOPOLOGY: unknown

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 48:

AGACGAAATA CGCGATCGCU GTTAA   25

(2) INFORMATION FOR SEQ ID NO: 49:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 25 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: single
            (D) TOPOLOGY: unknown

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 49:

AGCGATCGCG TATTTCGTCU CGCTC   25

(2) INFORMATION FOR SEQ ID NO: 50:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 31 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: single
            (D) TOPOLOGY: unknown

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 50:

AGCTCCTGAG ACTCATACCA GGCCUGAATC G   31